



US006163776C1

(12) **EX PARTE REEXAMINATION CERTIFICATE** (6178th)
United States Patent
Periwal

(10) **Number:** **US 6,163,776 C1**(45) **Certificate Issued:** **Apr. 8, 2008**

(54) **SYSTEM AND METHOD FOR EXCHANGING DATA AND COMMANDS BETWEEN AN OBJECT ORIENTED SYSTEM AND RELATIONAL SYSTEM**

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Reexamination Request:

No. 90/007,616, Jul. 6, 2005

Reexamination Certificate for:

Patent No.: **6,163,776**
Issued: **Dec. 19, 2000**
Appl. No.: **09/046,779**
Filed: **Mar. 23, 1998**

Related U.S. Application Data

(60) Provisional application No. 60/051,108, filed on Jun. 26, 1997.

(51) **Int. Cl.**
G06F 17/30 (2006.01)

(52) **U.S. Cl.** **707/4; 707/6; 707/101; 707/103 R**

(58) **Field of Classification Search** **707/4, 707/6, 101, 103 R, 104.1**
See application file for complete search history.

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(57) **ABSTRACT**

A system for exchanging data and commands between an object oriented system and a relational system. The system includes an Object-Relational Mapping (ORM) grammar, an ORM specification, Object Class Definitions, a relational database, an operating system, a Database Exchange Unit including an OR mapping unit, a schema generator, a schema reverse engineering unit and applications. The ORM specification is based on the ORM grammar and includes information for defining the mapping between object-oriented system and the relational system. The Object Class Definitions define the object-oriented system, and the relational database defines the relational system. The Database Exchange Unit executes in accordance with the ORM specification, and is the programs/routines that operate to translate data from the object model to the relational model, and vice versa. The present invention further comprises a number of methods including: a method for generating a ORM Data Structures; a method for generating a mapping unit; a method for generating a schema from an object model and an object-relational mapping specification; a method for generating an Object Class Definitions and an ORM specification from an ORM template specification and database schema; and a method for object streaming, and methods for efficient generation of persistently unique sequence numbers for new objects.

